CAMEL MILK – NEW OBSERVATIONS

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ABSTRACT

The camel is a multi-purpose animal with a huge productive potential. To western societies and even scientists it is unfortunately an alien animal. Only a few people have realised that the camel is the most suitable domestic animal for use in climatic extremes. In time of global warming, growing deserts and increasing scarcity of food and water, the camel can be part of a solution to these problems.

Small-scale enterprises have demonstrated that living condition of the nomadic herdsman and his family can be improved by selling surplus camel milk. The Dubai example has also clearly proven that dromedaries can be milked in high-tech dairy farms. Some compositions of camel milk are different from cow milk and their values also differ from cow milk and also between different researchers. Insulin, vitamin C, niacin and some unsaturated fatty acids are higher in camel milk. The absence of beta-lactoglobulin and the different compositions of proteins in camel milk may prevent allergic reactions. Therefore, camel milk could be an interesting alternative for infant milk products. Although the amount of lactose in camel milk is as high as in cow milk, lactose intolerance against camel milk does not exist. The reason is unknown. Raw camel milk is highly contaminated with bacteria when camels are milked under nomadic conditions lacking proper hygiene. However, there is no doubt that microbiological parameters of camel milk can meet international standards of cow milk when proper hygienic conditions are in place. No microbiological standards for camel milk exist. Camel milk must be heat-inactivated for human consumption. Our investigations showed that the shelf life of pasteurised camel milk kept at 4°C is more than 10 days. Heat-inactivation of 72°C for 5 minutes on different camel milk parameters, including insulin and vitamin C reduces their amount by only 5% to 8%. Gammaglutamyl transferase (GGT) is a potential indicator for the question of whether camel milk has been properly pasteurised or not.

Key words: Camel milk, compositions, heat inactivation, hygiene, shelf life

General Aspects

The camel possesses a huge productive potential. It is a multi purpose animal and, unlike any other domesticated animal, has been utilised by humans for centuries for transport, traction power, milk, meat, skin and fuel. In the countries of East and North Africa, as well as in some Asian countries, camel milk is still the main food source for the nomadic peoples, as it was for the Bedouins of Arabia before the oil boom. The camel is universally highly valued and provides a social standing for its owner. To date, the productive potential has been neglected by governments and scientists. The camel is an alien animal to western societies and is loaded with negative prejudices and misconceptions. In time of global warming, growing deserts and increasing scarcity of water and food, the camel can be part of a solution to these problems. Nowadays, even some Masais and Samburus, who are real cattle breeders, have given up cattle rearing in Kenya and Tanzania for camels (Albrecht, 2006). Only recently, the camel family has become the focus of interest, and even the FAO has stepped in promoting camel milk. Some governments and people are slowly realising that the camel is the most suitable domestic animal for uses in climatic extremes.

However, large and modern camel dairy enterprises like the one in Dubai (Fig 1, Wernery and Wernery, 2006) will be the exception because only rich, oil producing camel countries can afford to fulfill all requirements needed for such projects. Elsewhere, the camel is not suitable for projects that are designed for quick success with high income. However, the Mauritanian and Kenyan examples clearly demonstrate that living conditions for the nomadic herdsman and his family can be greatly improved by selling surplus camel milk to small scale enterprises without any negative effect on resources (Abdeirrahmane, 1997). It is common knowledge that millions of litres of nutritious camel milk are daily lost due to the unavailability of markets (Yagil, 1995). Nomadism does not present a problem for selling camel milk or products because the camel owners would bring their products to any prearranged point. According to EU regulations, no camel milk or its products are allowed to enter the European market.